

(19) World Intellectual Property Organization  
International Bureau(43) International Publication Date  
10 January 2002 (10.01.2002)

PCT

(10) International Publication Number  
WO 02/02635 A2(51) International Patent Classification<sup>7</sup>: C07K 14/705

(21) International Application Number: PCT/US01/21148

(22) International Filing Date: 3 July 2001 (03.07.2001)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/216,340 5 July 2000 (05.07.2000) US  
09/810,673 19 March 2001 (19.03.2001) US(71) Applicant: APPLERA CORPORATION [US/US];  
Robert A. Millman, 761 Main Avenue, Norwalk, CT  
06859 (US).

(72) Inventors: MERKULOV, Gennady, V.; c/o Celera Genomics, 45 West Gude Drive, Rockville, MD 20850 (US). YE, Jane; c/o Celera Genomics, 45 West Gude Drive, Rockville, MD 20850 (US). WEI, Ming-Hui; c/o Celera Genomics, 45 West Gude Drive, Rockville, MD 20850 (US). KETCHUM, Karen, A.; c/o Celera Genomics, 45 West Gude Drive, Rockville, MD 20850 (US). DI FRANCESCO, Valentina; c/o Celera Genomics, 45 West

Gude Drive, Rockville, MD 20850 (US). BEASLEY, Ellen, M.; c/o Celera Genomics, 45 West Gude Drive, Rockville, MD 20850 (US).

(74) Agent: CELERA GENOMICS; Robert A. Millman, 45 West Gude Drive C2-4, Rockville, MD 20850 (US).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished upon receipt of that report

[Continued on next page]

(54) Title: ISOLATED HUMAN ION CHANNEL PROTEINS, NUCLEIC ACID MOLECULES ENCODING HUMAN ION CHANNEL PROTEINS, AND USES THEREOF

## HOMOLOGOUS PROTEINS:

## Top 10 BLAST Hits:

Accession	Score	E
CAA19800094360178 /altid=q112804493 /def=gb AAH2165t EIAAH016...	529	e-149
CAA11000479457833 /altid=q116841066 /def=gb AAF28888 L1AF12330...	325	9e-88
CAA1335001092641184 /altid=q111360341 /def=pic IT30666 peroxis...	315	1e-84
CAA198000043621819 /altid=q112853689 /def=dbj BAB29016.1  (AB...	300	4e-80
CAA18000005183605 /altid=q117504235 /def=pic IT22688 hypotheti...	241	2e-62
CAA11000682325160 /altid=q117495323 /def=pic IT21074 hypotheti...	210	4e-53
CAA115000075553401 /altid=q119758252 /def=dbj BAB0871.1  (AB...	191	2e-44
CAA1335001098657884 /altid=q111358611 /def=pic IT49871 peroxis...	175	1e-42
CAA116300046661776 /altid=q110176874 /def=dbj BAB10091.1  (AB...	169	8e-41
CAA189000000196990 /altid=q117294582 /def=gb AAF49922.1  (AE003...	141	4e-32

## BLAST dbEST Hits:

Accession	Score	E
q112328398 /dataset=dbest /taxon=96...	997	0.0
q111448651 /dataset=dbest /taxon=96...	952	0.0
q111326910 /dataset=dbest /taxon=96...	850	0.0
q115425445 /dataset=dbest /taxon=9606...	825	0.0
q113400522 /dataset=dbest /taxon=9606...	747	0.0
q112324195 /dataset=dbest /taxon=96...	678	0.0
q118278789 /dataset=dbest /taxon=960...	674	0.0
q113797306 /dataset=dbest /taxon=9606...	672	0.0
q111446893 /dataset=dbest /taxon=96...	670	0.0
q115676280 /dataset=dbest /taxon=9606...	615	e-173

## EXPRESSION INFORMATION FOR MODULATORY USE:

## Library source:

## From BLAST dbEST hits:

q112328398 /nervous tumor  
q111448651 /ovary-fibrotheoma  
q111326910 /nervous\_normal  
q115425445 /lung  
q118278789 /cervix  
q115676280 /brain

## From tissue screening panels:

hippocampus

FEATURES:  
5'UTR: 1-100  
Start Codon: 101  
Stop Codon: 1277  
3'UTR: 1280

(57) Abstract: The present invention provides amino acid sequences of peptides that are encoded by genes within the human genome, the transporter peptides of the present invention. The present invention specifically provides isolated peptide and nucleic acid molecules, methods of identifying orthologs and paralogs of the transporter peptides, and methods of identifying modulators of the transporter peptides.

WO 02/02635 A2